



## At Home on the Range?

### Studying the compatibility of grazing and restoration

Imagine acres of waving green and brown, dotted with cows contentedly

munching, moving lazily from one area to another in search of longer, fresher grasses. But what about the small animals and plants that are just as dependent on that floodplain for food and shelter? Measuring the domestic creature's impact on the wild creatures takes time, patience and some creativity.

What kind of pitfalls do you run into when you study how cattle grazing may or may not affect the populations of small animals? If you're a harvest mouse, you might temporarily find yourself in a bucket buried in the ground!

The "pitfall trap" is one tool used by researchers to humanely catch, count and release small creatures roaming the flat lands of the Kissimmee floodplain over a seven year study period. Biologists also measured grazing effects on vegetation.

"We wanted to find out if grazing cattle on the restored floodplain is compatible with Kissimmee River restoration goals," said Pete David, senior supervising scientist. Scientists looked at how grazing affects the diversity, coverage and height of shrubs, and how this in turn affects populations of small animals. The three small mammals that were captured most frequently were the harvest mouse, cotton rat and the least shrew.

"Grazed study sites had less vegetative cover. This change resulted in significant differences in the proportion of small mammals trapped," David said. "The ungrazed areas had higher numbers of small mammals."

Numbers of the harvest mouse declined, researchers believe, due to the reduction of shrubs such as wax myrtle and saltbush. The shrubs provide critical feeding sites and cover to protect the harvest mouse from predators. Many of these shrubs are crushed under the hooves of the wandering cattle.

Amphibians like frogs and snakes seem much less impacted by the presence of grazing cows, with only a small difference

in their populations between the grazed and ungrazed sites. Analysis focused on the eastern narrow-mouthed toad, southern leopard frog, black racer and common garter snake. "Snakes are more mobile, and the frogs and toads appeared to be responsive to rainfall for breeding but



Above: A fence directs the animals into a pitfall trap where they are counted, marked and released unharmed. Left: Harvest mouse

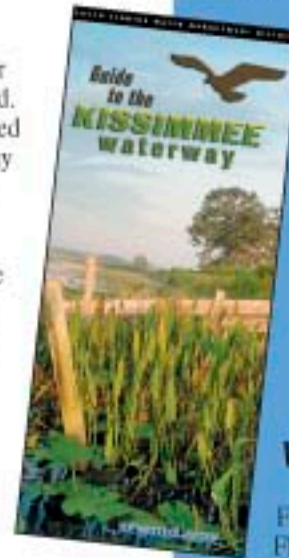


unaffected by the presence or absence of cattle," David said.

Researchers also discovered that cattle and cotton rats may compete for food. The cattle grazing reduced certain grasses that produce seeds consumed by the rats. On the plus side, grazing controlled the coverage of some exotic plants like primrose willow, which could benefit other species of animals and plants.

"What can we take home from all of this? We need to look at using innovative range management practices to mitigate the impacts of continuous grazing," David said. With continuing study, researchers can help these native and domestic creatures find ways to thrive side by side.

A similar study to gather information about the effect of grazing on vegetation, small mammals, and birds in the hardwood hammock areas fringing the historic Kissimmee River floodplain is under way.



Question selected from District letters and emails received from the public.

I'd heard that parts of the Kissimmee River were closed during the summer. Is this still the case?

No. Exceptionally high rainfall meant that parts of the Kissimmee waterway could be dangerous to navigate. High water levels meant some weirs and other structures were hard to see, and constant rains made flows more rapid than normal.

As the dry season began in November, those high levels began to fall, and now virtually all sections of this central Florida river can be readily navigated.

If you've never taken a boat or canoe trip along the Kissimmee River, or camped or hiked in the shrouded hardwood hammocks along the river's banks – especially through the sections that have been restored – the next few months offer great opportunities.

For a free copy of our "Guide to the Kissimmee Waterway," call toll free in Florida (800) 432-2045, x6883 or visit our web site ([www.sfwmd.gov](http://www.sfwmd.gov)).

### Who is Freddy?

His full name is "Freddy the Friendly Alligator." He is the South Florida Water Management District's mascot.

You may have seen him on the signs that mark the region's canals and rivers.

Alligators are nature's water managers, and are what most people picture when they think about Florida. Alligators dig deep holes in the swamp where they "hang out." When drought strikes, these "gator holes" provide water and food (fish, turtles, insects) for many other species such as wading birds. At the same time, any creature sharing the alligator's territory could become its lunch! That's why people should remember that alligators are wild animals which should be admired, but also avoided.

Tell us what really "matters" to you about water!

Here's what I think:

Name (if you want us to contact you)

Telephone or e-mail

Return this card to: Department of Public Information  
South Florida Water Management District  
P.O. Box 24680  
West Palm Beach, FL 33416-4680

You can also e-mail or call us with your comments and mailing list requests:  
[prichola@sfwmd.gov](mailto:prichola@sfwmd.gov) • Toll Free in FL 1-800-432-2045



# SOUND OFF!

## CREDITS

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The South Florida Water Management District is a regional, governmental agency that oversees the water resources in the southern half of the state. It is the oldest and largest of the state's five water management districts.

Our mission is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems and water supply.

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